

UNITED STATES MARINE CORPS  
Logistics Operations School  
Marine Corps Combat Service Support Schools  
PSC Box 20041  
Camp Lejeune, North Carolina 28542-0041

MTCC 4102

**STUDENT OUTLINE**

**OPERATIONAL RISK MANAGEMENT**

1. Terminal Learning Objective: Given the requirement to supervise ground safety within a motor transport maintenance/operation commodity areas, and the references, identify Operational Risk Management (ORM)/safety training requirements, per the references. (35xx.04.02)

2. Enabling Learning Objectives

a. Given the requirement to supervise ground safety within a motor transport maintenance/operation commodity areas, and the references, identify ORM training requirements for military personnel, per the references. (35xx.04.02c)

b. Given the requirement to supervise ground safety within a motor transport maintenance/operation commodity areas, and the references, identify the five step ORM thought process used to prevent accidents and mishaps, per the references. (35xx.04.02d)

c. Given the requirement to supervise ground safety within a motor transport maintenance/operation commodity areas, and the references, identify the concept of ORM, per the references. (35xx.04.02e)

d. Given the requirement to supervise ground safety within a motor transport maintenance/operation commodity areas, and the references, identify the procedures used to prevent mishaps utilizing operational risk management cards/matrix, per the references. (35xx.04.02f)

**OUTLINE**

1. **TRAINING REQUIREMENTS**

a. ORM will be included in the orientation and training of all military personnel. Level of training will be commensurate with rank, experience and leadership position.

(1) ORM training shall be incorporated into leadership courses, General Military Training and courses where operational employment, safety, or force protection are addressed (e.g., safety schools, initial warfare qualification schools, and tactical or operational level war fighting courses).

(2) ORM training shall be incorporated into existing training periods on safety and operational planning/decision making whenever possible.

(3) The ORM process and its specific application to pertinent subjects shall be integrated into fleet tactical training, Personnel Qualification Standards (PQS), Naval and Occupational Standards, Individual Training Standards and the Marine Corps Combat Readiness Evaluation System.

## **2. CONCEPT OF OPERATIONAL RISK MANAGEMENT**

a. It is a decision making tool used by people at all levels to increase operational effectiveness by anticipating hazards and reducing the potential for loss, thereby increasing the probability of a successful mission.

b. Increases our ability to make informed decisions by providing the best baseline of knowledge and experience available.

c. Minimizes risks to acceptable levels, commensurate with mission accomplishment. The amount of risk we will take in war is much greater than that we should be willing to take in peace, but the process is the same. Applying the ORM process will reduce mishaps, lower costs, and provide for more efficient use of resources.

## **3. ORM TERMINOLOGY**

a. Hazard. A condition with the potential to cause personal injury or death, property damage or mission degradation.

b. Risk. An expression of possible loss in terms of severity and probability.

c. Risk Assessment. The process of detecting hazards and assessing associated risks.

d. ORM. The process of dealing with risk associated within military operations, which includes risk assessment, decision-making and implementation of effective controls.

#### **4. FIVE STEPS OF ORM PROCESS**

a. Identify Hazards. Begin with an outline or chart of the major steps in the operation. Next, conduct a preliminary hazard analysis by listing all of the hazards associated with each step in the operational analysis along with possible causes for those hazards.

b. Assess Hazards. For each hazard identified, determine the associated degree of risk in terms of probability and severity. Although not required, the use of a matrix may be helpful in assessing hazards.

c. Make Risk Decisions. First, develop risk control options. Start with the most serious risk first and select controls that will reduce the risk to a minimum consistent with mission accomplishment. With selected controls in place, decide if the benefit of the operation outweighs the risk. If risk outweighs benefit or if assistance is required to implement control, communicate with higher authority in the chain of command.

d. Implement Controls. The following measures can be used to eliminate hazards or reduce the degree of risk. These are listed by order of preference:

(1) Administrative Controls. These are controls that reduce risks through specific administrative action, such as:

(a) Providing suitable warnings, markings, placards signs and notices.

(b) Establishing written policies, programs, instructions and standard operating procedures (SOP)

(c) Training personnel to recognize hazards and take appropriate precautionary measures.

(d) Limiting the exposure to a hazard.

(2) Engineering Controls. Controls that use engineering methods to reduce risks by design, material selection or substitution when technically or economically feasible.

(3) Personal Protective Equipment. Serves as a barrier between personnel and a hazard. It should be used when other controls do not reduce the hazard to an acceptable level.

e. Supervise. Conduct follow-up evaluations of the controls to ensure they remain in place and have the desired effect. Monitor for changes, which may require further ORM. Take corrective action when necessary.

## **5. LEVELS OF ORM PROCESS**

a. The ORM process exists on three levels. The commander selects which level based upon the mission, the situation, the time available, the proficiency level of personnel and the assets available. While it would be preferable to perform a deliberate or in-depth risk management process for all evolutions, the time and resources to do so will not always be available.

b. One of the objectives of ORM training is to develop sufficient proficiency in applying the process such that ORM becomes an automatic or intuitive part of our decision-making methodology. In the operational environment, leaders should be able to employ this time-critical process to make sound and timely decisions that generate tempo and facilitate decisive results.

c. The three ORM process levels are:

(1) Time-critical. An "on the run" mental or oral review of the situation using the five step process without recording the information on paper. This level of ORM is employed by experienced personnel to consider risk while making decisions in a time-compressed situation. It is used during crisis response scenarios. It is helpful in choosing the appropriate course of action when an unplanned event occurs during the execution of a planned operation or daily routine.

(2) Deliberate. The deliberate process uses primarily experience and brainstorming to identify hazards and develop controls, and is therefore most effective when done in a group. Examples of deliberate applications include planning of upcoming operations, review of standard operating, maintenance or training procedures and damage control/disaster response planning.

(3) In-depth. Deliberate process with a more thorough risk assessment (first two of the five steps) involving research of available data, use of diagram and analysis tools, formal testing or long term tracking of the hazards associated with the operation (sometimes with the assistance of technical experts) to identify and assess the hazards. It is used to more thoroughly study the hazards and their associated risk in a complex operation or system, or on in which the hazards are not well understood. Examples of in-depth applications include long term

planning of complex operations, introduction of new equipment, materials and missions, development of tactics and training curricula and major system overhaul or repair.

## **6. PRINCIPLES OF ORM**

a. Accept Risk When Benefits Outweigh the Cost. Risk is inherent in war and is involved in every mission. Risk is also related to gain; normally greater potential gain requires greater risk. The goal of ORM is not to eliminate risk, but to manage the risk so that the mission can be accomplished with the minimum amount of loss.

b. Accept No Unnecessary Risk. Take only risks which are necessary to accomplish the mission.

c. Anticipate and Manage Risk By Planning. Risks are more easily controlled when they are identified early in the planning process.

d. Make Risk Decisions at the Right Level. Risk management decisions are made by the leader directly responsible for the operation. Prudence, experience, judgment, intuition and situational awareness of leaders directly involved in the planning and execution of the mission are the critical elements in making effective risk management decisions.

## **7. HAZARD SEVERITY**

a. Hazard severity is defined by potential degree of injury, illness, property damage, loss of assets (time, money, personnel) or effect on mission. The combination of hazards may increase the overall level of risk. Hazard severity categories are assigned as Roman numerals according to the following criteria:

(1) Category I. The hazard may cause death, loss of facility/asset or result in grave damage to national interests.

(2) Category II. The hazard may cause severe injury, illness, property damage, damage to national or service interests or degradation to efficient use of assets.

(3) Category III. The hazard may cause minor injury, illness, property damage, damage to national, service or command interests or degradation to efficient use of assets.

(4) Category IV. The hazard presents a minimal threat to personnel safety or health, property, national, service or command interests or efficient use of assets.

## 8. MISHAP PROBABILITY

a. The probability that a hazard will result in a mishap or loss, based on an assessment of such factors as location exposure (cycles or hours of operation), affected populations, experience or previously established statistical information. Mishap probability will be assigned an English letter according to the following criteria:

(1) Sub-category A. Likely to occur immediately or within a short period of time. Expected to occur frequently to an individual item or person or continuously to a fleet, inventory or group.

(2) Sub-category B. Probably will occur in time. Expected to occur several times to an individual item or person or frequently to a fleet, inventory or group.

(3) Sub-category C. May occur in time. Can reasonably be expected to occur some time to an individual item or person or several times to a fleet, inventory or group.

(4) Sub-category D. Unlikely to occur.

## 9. RISK ASSESSMENT CODE

a. The RAC is an expression of risk which combines the elements of hazard severity and mishap probability. Using the matrix, the RAC is expressed as a single Arabic number that can be used to help determine hazard abatement priorities. Use the Matrix to determine the RAC:

		<u>Mishap Probability</u>			
		A	B	C	D
<u>Hazard</u>	I	1	1	2	3
<u>Severity</u>	II, III	1	2	3	4
	IV	2	3	4	5
		3	4	5	5

**RAC Definitions:** 1 - Critical  
2 - Serious  
3 - Moderate  
4 - Minor  
5 - Negligible